



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent of:        Qing Chen et al.  
Application No.:        10/091,788  
Filing Date:            March 6, 2002  
Title:                    An Average Current Estimation Scheme  
                              for Switching Mode Power Supplies

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Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**AFFIDAVIT OF JEFFREY BOYLAN**

Dear Sir:

I, Jeffrey Boylan, declare as follows:

1. I am Vice President of Technology for TDK Innoveta, Inc. who is familiar with the technical details of the above-referenced invention.
2. The circuit taught in the Hirst patent (U.S. 5,789,723) is clearly distinguishable from the average current estimation circuit claimed in the present application. Specifically, the Hirst circuit is a power processing circuit, while the claimed current estimation circuit is a signal conditioning circuit. Key features of each respective circuit make them unsuitable for performing each other's respective tasks.
3. Because of its function, the power processing circuit in Hirst requires significantly greater power levels than the current estimation circuit of the present invention. This difference is inherent to the circuits' respective designs and functions.
4. The Hirst circuit has an inductor ( $L_1$ ) that is part of a boost converter and delivers stored energy when the switch is off. Such a boost converter has no place or function in a current estimation circuit.

5. Because the Hirst circuit cannot perform the functions of the current estimation circuit, it left a need unfulfilled in the market, which is indicated by the market success of the current estimation circuit in filling that need.

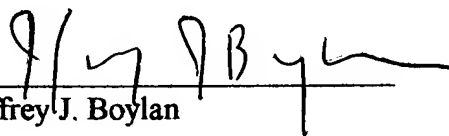
6. The Hirst patent issued 1998. The current estimation circuit entered the market in 2002.

7. Since entering the market, products incorporating the current estimation circuit have gross approximately \$7M. Such rapid growth in sales indicates that it provided functionality that was previously unavailable in the marketplace, despite the fact the Hirst invention was already publicly available for at least four years.

8. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 101 Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent.

Date: August 4, 2006


Respectfully submitted,

  
Jeffrey J. Boylan

THE STATE OF TEXAS     §  
                                      §  
COUNTY OF DALLAS     §

BEFORE ME, the undersigned authority, on the day personally appeared JEFFREY BOYLAN known to me to be the person whose name is subscribed to the foregoing instrument and, being by me first duly sworn, upon oath declared that the statements and capacity acted in are true and correct.

Subscribed and sworn to before me, this 14<sup>TH</sup> day of August, 2006, A.D., to certify which witness my Hand and seal of office:

  
\_\_\_\_\_  
Notary

(SEAL)

